Project Information Form

Project Title	Reducing Service Interruptions in Linear Infrastructure Systems (Transportation and Water/Sewer) by Synchronizing Schedules for Selected Maintenance Activities
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Funding Source(s) and Amounts Provided (by each agency or organization)	UTC: $ 50,000 FIU: $ 50,000
Total Project Cost	$100,000
Agency ID or Contract Number	
Start and End Dates	1/1/12 to 1/31/14
Brief Description of Research Project	Linear infrastructure systems (roads, water/sewer/power lines) are often interdependent due to the similarities in their design purposes to provide the necessary services. Hence, they are vulnerable to possible domino effects which can impact both the health and economic well being of communities. The key impacts of bottlenecks in interdependent linear infrastructure systems (ILIS) are reduction of system reliability and oscillations in service delivery capacity. In ILIS events are linked by time and dynamics of the interactions between the systems. This research will demonstrate quantitatively infrastructure limitations (design and operation) for coastal communities, identification of critical bottlenecks for service quality and propagation of domino effects in ILIS. Objectives of this research are to: 1. Characterize service interruption profiles in ILIS; 2. Provide an dynamic analysis of interactions in ILIS; 3. Identify interactively the major events increasing the stress and service bottlenecks; 4. Develop an interactive tool to establish checkpoints for service quality. The following tasks will be conducted during the study. *Task 1.* Preliminary analyses *Task 2.* Identification of service interruption hazard modes *Task 3.* Profiling, classification and rating of hazard modes *Task 4.* Service quality and priority assessment

Describe Implementation of Research Outcomes (or why not implemented) (Attach Any Photos)	*Task 1.* Preliminary analyses: Preliminary analysis work plan was developed. *Task 2.* Identification of service interruption hazard modes: This task focuses on: 1.Causes of service quality decline and interruptions, 2. Service quality and system redundancy, 3. Service quality. This task will be initiated in March 2013. *Task 3.* Profiling, classification and rating of hazard modes A rating system (metrics) for different service interruption hazard modes are being developed. A preliminary criteria was developed. *Task 4.* Service quality and priority assessment: This task has not been initiated yet.
Impacts/Benefits of Implementation (actual, not anticipated)	None yet.
Web Links • Reports • Project website	Web link is under construction